

# Countdown

The Space-age comic!

INSIDE! Part 1 of a Super Space Poster!

## Escape or Die!

£5.00

Grant Two is just minutes away from transportation to Earth. Now at the Lunar spaceport and being ushered along the terminal tunnel by Major Ritter's Zephyrmen, Grant prepares to make a dash or die effort for his freedom, not knowing that outside, Bill the Alien together with George Barnes, have taken over one of the Zephyr craft circling the Earth transporter...

BETTER TO DIE  
THAN SE THEIR WEAPON  
AGAINST COUNTDOWN...  
THIS IS IT, GRANT TWO  
... YOUR LAST CHANCE...

SUMMONING EVERY LAST OUNCE  
OF STRENGTH GRANT PILES  
INTO HIS ESCORT...

OOF!

WHAT THE...?

GRANT'S BID FOR FREEDOM HAS  
NOT GONE UNOBSERVED...

GRANT'S  
MADE A BREAK;  
BILL...

THEN IT'S TIME  
WE GAVE HIM A  
DIVERSION...

BILL USES HIS AMAZING HYPNOTIC POWERS  
ON THE OTHER ZEPHYR CRAFT CREWS...

YOU  
HAVE YOUR  
ORDERS...  
OBEY THEM.

OBEY...

LUNAR CONTROLLER, MAJOR  
BITTER CANNOT BELIEVE HIS  
EYES; WHEN SUDDENLY...

THIS IS  
MUTINY...STOP  
THEM! ARREST  
THOSE CRAFT!

# Explorer 42 Discovers X-Ray Pulsar

**E**XPLORER 42, the midget astronomy satellite sent into orbit last December, has already made several discoveries which may lead to a better understanding of the evolution of stars and galaxies.

Its latest achievement is the discovery of a new astronomical riddle—a pulsating X-ray star unlike any other so far observed in space.

This is Cygnus X-1, a new X-ray pulsar in the constellation Cygnus, also known as the Northern Cross.

Pulsars, first discovered in 1967, are sources of precisely-timed emissions of radiation which scientists now believe to be neutron stars which are spinning rapidly.

They are thought to be remnants of stars which



Artist's impression of Explorer 42. The satellite's X-ray experiment weighs 140 pounds and it is supported on the upper end of a 175-pound control section. There are four solar paddles providing 17 watts of power. Two command antennas and a telemetry antenna are mounted at the ends of three of the solar panels.

## Countdown

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June 26, 1971

Issue 19

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## This week...

Countdown coverage of Apollo 15 begins with the first of a two-part feature on the Lunar Roving Vehicle. For all the background information on this important mission, follow Countdown each week.

## and next...

Don't miss the second half of your Space Exploration Poster. When you attach it to the first half (pages 12 and 13 of this issue) you will have an 18 in. by 21 in. poster suitable for display.

have collapsed and been condensed by gravitational forces into small, unbelievably dense bodies. A characteristic of pulsars is that they send out light or radio flashes at precise intervals.

Cygnus X-1 emits about 15 X-ray pulses per second. The only other pulsar known to emit X-rays, NP-0532 in the Crab nebula, produces 30 pulses per second.

NP-0532 was probably created as a result of the Crab supernova explosion of 1054 A.D. Cygnus X-1 is thought to be only 10,000 years old; there is nothing in its vicinity to suggest it is also the remnant of a supernova.

## BLACK HOLE

So astronomers are still speculating about its origins. One suggestion is that X-1 could be what is known as a 'black hole' star that has collapsed to such extreme densities that neither matter nor energy—in effect, no light—can ever escape from it.

Material spiralling into such a 'black hole' could, some scientists think, produce enormous amounts of X-radiation like that observed from Cygnus X-1. The initial discoveries of Explorer 42 were reported to a meeting of the American Astronomical Society on March 31.

Before locating the Cygnus X-ray pulsar it had found 13 new X-ray sources in the Milky Way and several remote galaxies. It had also discovered that the quasar 3C 273 on the edge of the universe is a powerful generator of X-rays.

A NASA scientist, Dr. Carl Fichtel, told the meeting that Explorer 42 "represents a giant step forward in astronomy by providing the first complete and sensitive picture of the sky in X-rays. These first results from the satellite confirm the expectation that not only significant, but some unexpected phenomena would be discovered relat-

## Explorer 42 Data

|             |                             |
|-------------|-----------------------------|
| Launch date | December 12, 1970           |
| Orbit       | 330 miles high, circular    |
| Period      | 90 minutes                  |
| Weight      | 315 pounds                  |
| Wingspan    | 21 feet                     |
| Mission     | Map celestial X-ray sources |

Launch vehicle NASA Scout (Italian crew)

Launch site San Marco platform, 3 miles off coast of Kenya

First U.S. satellite launched by another country.

ing directly to the fundamental high energy processes which govern the evolution of stars and galaxies".

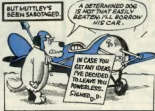
Explorer 42, also known as the Small Astronomy Satellite, was launched on December 12 by Italian technicians from Italy's San Marco floating launch platform, located in the Indian Ocean off the coast of Kenya.

The use of this platform, close to the equator, enabled the satellite to be put into an equatorial orbit with a small Scout rocket.

A much bigger Delta rocket would have been needed to achieve the same orbit from Cape Kennedy.

The equatorial orbit was selected to bypass the South Atlantic area where the Earth's radiation belts dip close to the surface. This radiation could have interfered with the spacecraft's electronic systems and its X-ray experiment.

## DASTARDLY MUTTLEY



# STINGRAY

● ART: RAB HAMILTON

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## The Waters of Hyde

When Stingray returns from Mars, Commander Shore orders the emergency hatch opened. His men are taken by surprise when an ape-like man leaps out and escapes. Then another follows but this time the WASP men are ready and it is captured. To their horror the unconscious monster changes into Troy Tempest...

IN THE WASP RESEARCH LABORATORIES...



OUT ON THE ROUGH COUNTRY  
BEHIND MARINEVILLE...



WITH A WAIL OF FIRING, THE SMALL  
TROOP CARRIER RACES OFF INTO  
THE NIGHT...



OTHER EYES WATCH THE  
CARRIER DISAPPEAR...



SUDDENLY...



THE DOGS FLEE IN HORROR.



BUT BEFORE THE TRIGGER CAN BE PULLED...

UH... SHOOT YOU FOOL!

LOOK OUT...

IT'S THE APEMAN...

SECONDS LATER, THE BATTLE IS FINISHED AND A LONG FILE OF HEADS TOWARDS THE WASP BASE...



COMMANDER SHORE STILL RAGES IRRITABLY IN THE MARINEVILLE LABORATORY...



WHAT'S THE DELAY DOC!

I'M PLAYING WITH TROY'S LIFE, COMMANDER, MY CALCULATIONS HAVE GOT TO BE EXACT.

THE QUIET NIGHT IS SHATTERED...



LOOK OUT!

ONE MISTAKE IN THIS NEUTRALIZER AND TROY WOULD BE BETTER DEAD!

WITH SUPER-HUMAN STRENGTH THE APEMAN SWEEPS THE COUCH FROM THE FLOOR...



PHOWES! DO YOU UNDERSTAND ME... WE CAN HELP YOU...

A POWERFUL ARM SENDS SHORE'S HOVER CHAIR SPINNING...



STOP HIM... HE'S GETTING AWAY... STOP HIM!

The Vogans are desperate for fresh Vogante, the element which gives them eternal life. Because of its corrosive properties on other metals it cannot be mined by machines. But now the Vogans need the Tardis to transport the natural Corrosion down to their planet. The Crallican girl listens with horror as she hears Dr. Who agree...

## The Vogon Slaves



**DR WHO**

MINUTES LATER TRANDI IS USHERED INTO THE TARDIS BY A ROBOTIC GUARD.

"I THOUGHT YOU WERE MY FRIEND. NOW YOU EXPECT ME TO HELP YOU TRANSPORT MY PEOPLE INTO THEIR HANDS."

"BE QUIET OR I WILL ORDER ONE OF THE ROBOTS TO SILENCE YOU."

"MY FIRST TASK IS TO FIX THESE ROBOTS."

SIMULTANEOUSLY A THUNDEROUS ROAR FILLS THE TARDIS.

"OUT OF CONTROL... DEST..."

"AAAH!"

"THEN, AT LAST THE BELIEF OF SILENCE..."

"ARE YOU ALL RIGHT, MY DEAR?"

"YES... I... I... THINK SO... BUT I DON'T QUITE UNDERSTAND."

THE VOGAN LEADS DR WHO THROUGH A SERIES OF GALLERIES, UNTIL...

"IN OUR SEARCH FOR VOGANTE WE ALSO FOUND OTHER MINERALS LESS ESSENTIAL, BUT WORTHWHILE."

"HOW CAN I GUARANTEE YOU I'LL KEEP YOUR WORD AND FREE ME?"

ART: HARRY LINDFIELD

© 1991 B&C

"NONE OF US ARE STRONG ENOUGH TO WITHSTAND SUCH A JOURNEY. IT'S IMPERATIVE YOU GET THE WORKERS HERE QUICKLY."

"MY PEOPLE ONLY HAVE SUFFICIENT SUPPLIES TO LASTLY LAST."

"DON'T GET ANY SILLY IDEAS ABOUT OUR WEAKNESS. WE HAVE PROGRAMMED OUR ROBOTS TO DESTROY THIS ENTIRE STAR SYSTEM SHOULD OUR SITUATION BECOME FATAL."

"THE DOCTOR UNDERSTANDS WELL THE VOGAN WARNING, BUT EVEN SO HE MAKES A LAST REQUEST..."

"COULD I TAKE THE GIRL SHE IS NO USE TO YOU, AND COULD BE OF SOME CONSIDERABLE ASSISTANCE TO ME."

DR WHO MAKES A PRETEXT OF CHECKING HIS CONTROLS...

"WHAT ARE YOU DOING? WHY IS THERE DELAY IN LAUNCHING?"

"JUST THE USUAL PRECAUTIONS."

"IF INCLUDED IN THE LAUNCH PROCEDURE THEY WON'T SUSPECT A THING UNTIL IT'S TOO LATE."

"HERE GOES..."

"IT'S QUITE SIMPLE REALLY, I NEVER HAD ANY INTENTION OF HELPING THOSE GALACTIC PARASITES."

"THEN YOU WILL HELP TO RESCUE MY PEOPLE?"

"IF I DON'T GET THESE THINGS FUNCTIONING AGAIN, AND ON A LARGER SCALE, NONE OF US STAND MUCH CHANCE OF ANYTHING."

\*\* See next week's COUNTDOWN for Part 2 of your Super New SPACE POSTER \*\*

TO BE CONTINUED

# CAPTAIN SCARLET

Invisible threads of a giant web encircle the Earth, reaching every spot inhabited by man. This web is the telecommunications network, which uses satellites to reach the far corners of the world...

**Countdown Complete**

SPACE COMMUNICATION, ONE OF EARTH'S SCIENTIFIC WONDERS... BUT ALSO A POTENTIAL WEAKNESS...

WE KNOW YOU CAN HEAR US, EARTHMEN. DREAM WELL OF YOUR DESTRUCTION!

THE GHOSTLIKE FIGURE FOLLOWS THE INSTRUCTIONS OF HIS MYSTERON MASTERS...

THIS TIME THE EARTH IS POWERLESS AGAINST THE WILL OF THE MYSTERONS.

OUT OF THE WRECKAGE OF THE SATELLITE THE MYSTERON MIRACLE IS PERFORMED...

RETURN TO EARTH, CAPTAIN BLACK...

OBEY THE VOICE OF THE MYSTERONS!

THE BREAK IN COMMUNICATIONS LASTS ONLY SECONDS...

LONDON, THE FOLLOWING DAY...

DREAM OF YOUR DESTRUCTION. WHAT CAN IT MEAN, SCARLET?

I DON'T KNOW, AND WHAT WORRIES ME MORE IS I DON'T SEEM TO BE GETTING ANYWHERE.

SUDDENLY...

WHAT'S UP WITH THAT GUY?

MINUTES LATER AFTER A DOCTOR'S EXAMINATION...

IT'S QUITE EXTRAORDINARY.

LOOKS LIKE HE'S FAINTED.

WHAT'S THE MATTER WITH HIM, DOC?



HE'S THE FIFTH CASE THIS MORNING. NOT ANY NORMAL COMA, BUT A DEEP SUBCONSCIOUS SLEEP.

I DON'T LIKE THE SMELL OF THIS, BLUE.

YOU MEAN THESE PEOPLE WERE WALKING ALONG QUITE NORMALLY, THEN THEY SUDDENLY FALL ASLEEP, DOC?

NOT ALL WALKING, UNFORTUNATELY THREE WERE DRIVING CARS, CAPTAIN.

IT'S ALMOST AS IF SOME HIDDEN POWER TAKE CONTROL OF THEIR MINDS. MY GUESS IS: IT'S SOME NEW ILLNESS...



THIS DISTURBING NEWS SENDS  
THE SPECTRUM MEN BACK  
TO CLODBASE...

IT'S NOT JUST  
LONDON, SCARLET.  
REPORTS ARE COMING  
FROM ALL OVER  
THE WORLD.

IT MUST BE  
THE MYSTERONS...  
BUT HOW ARE  
THEY DOING IT?



AS YET WE HAVE  
NO EXPLANATION,  
BLUE. BUT WE'RE GOING  
TO FIND OUT. YOU AND A  
RESEARCH TEAM LEAVE  
FOR SPOONBY AND THAT  
BEACHED LINER  
IMMEDIATELY.



YOU AND  
ANOTHER TEAM  
ARE RETURNING  
TO LONDON, SCARLET.  
I WANT RESULTS  
AND FAST!

SCARLET SETS UP BASE  
IN PARLIAMENT SQUARE.



CHECK EVERYTHING...  
BLOOD, BRAIN PATTERNS...  
WATER, THE ATMOSPHERE...  
FOOD... EVERYTHING!

RIGHT, CAPTAIN...  
WE'LL GET TO  
WORK!

I'VE SOME IDEAS  
OF MY OWN. I WANT  
TO LOOK INTO... I'LL  
BE BACK IN AN  
HOUR.

AS CAPTAIN SCARLET'S S.R.V. RACES THROUGH  
THE SILENT STREETS OF LONDON...



EVEN THE CATS  
AND DOGS HAVE  
BEEN AFFECTED...

CLODBASE TO  
CAPTAIN SCARLET:  
WHAT IS YOUR  
POSITION?



PROCEEDING  
NORTH ALONG  
TOTTENHAM COURT  
ROAD...



I WANT TO USE  
THE POST OFFICE  
TOWER FOR AN  
EXPERIMENT,  
COLONEL.

THINGS ARE DETERIORATING  
FAST, CAPTAIN. IT'S EVEN  
REACHED US. WE'RE GOING  
ON AUTOMATIC.



SCARLET REACHES HIS DESTINATION...

CLODBASE ON AUTOMATIC.  
ERIE FEELING BEING ONE  
OF THE FEW PEOPLE STILL  
AWAKE...

# Super mousse

SUPER MOUSSE ARRIVES AT SAN FARRINANA CARRIBAN ISLAND, AS GUEST OF THE PRESIDENT.

WELCOME TO OUR ISLAND, SENOR. IT IS AN HONOUR TO HAVE YOU.

WELL, THANK YOU KINDLY, MR. PRESIDENT.

NEXT DAY S.M. BEGINS HIS VACATION IN REAL STYLE...

SO ZEES EES THE GREAT SUPER MOUSSE SANCHEZ

THE GENERALISSIMO SAYS HE WILL OVERTHROW THIS GOVERNMENT WITH MESS HELP MANUEL.

SUPER MOUSSE LIKES TO DO A LITTLE EXPLODING.

HOW ABOUT YOU GUYS SHOWING ME AROUND?

IT WILL BE OUR HONOUR, SENOR.

SEE THE BEAUTIFUL ISLAND WITH MANUEL ONLY 2 PISA!

AND SO...

GAY, SLOW DOWN, I CAN'T TAKE ANY PICTURES.

THERE IS NO TIME FOR PICTURES, SENOR. THE GENERALISSIMO IS WAITING.

AT HIS JUNGLE HEADQUARTERS THE LEADER OF THE REVOLUTIONARIES IS WAITING...

IT IS AN HONOUR TO MEET YOU, SENOR SUPER MOUSSE.

I'D CONSIDER IT REAL FRIENDLY IF YOU ASKED YOUR MEN TO TAKE ME BACK TO MY HOTEL, GENERAL.

BUT YOU ARE GOING TO TEACH MY REVOLUTIONARY ARMY TO BE SUPER MOUSSES.

CAN'T DO THAT, GENERAL. SUPER MOUSSE WORKS ONLY FOR LAW AND ORDER.

THEN YOU WEE! DIE SENOR. YOU HAVE ONE LAST REQUEST.

THEN I'LL JUST HAVE A QUICK MUNCH, GENERAL.

SUPER MOUSSE GETS SUPER CHARGED.

SUPER WHIPPED, SUPER CREAMY CHOCOLATE MOUSSE.

COVERED IN REAL CHOCOLATE.

GET READY, TAKE AIM!  
TIME TO CREATE MY OWN REVOLUTION...

S.M. SPINS INTO ACTION...

F-F-FANTISIMO!

WHIZZ

YOU HAVE SAVED MY PEOPLE FROM THIS BANDIT AND HIS CLIT THROATS.

ALL IN A DAYS... ER HOLIDAY MR. PRESIDENT, GAVE ME A CHANCE TO GET UNWOUND.

S.M. KNOWS THAT EVERY SUPER-CHARGED SUPER MOUSSE BAR IS A REVOLUTION...

Super mousse

GET SUPER-CHARGED

2tp

# WEIRDOS ON WHEELS!



Above: There's no daunting the rider on the new Honda US90. He can climb stairs on it as easily as he can travel over sand, mud or snow—all due to the oversize tyres. This hard-riding bike is specially made for rough terrain and can be taken apart and carried in the boot of a car.

Below: That's right, a bicycle-built-for-twenty, six more than the quadricyclelopede in issue nine. It was built by 30 craftsmen at Rickman Engineering, New Milton, Hants., in 1968. Vital statistics: length 36 ft. 4 ins., weight 880 lb. empty, 2 tons full.

Below: This intrepid rider is spinning round and round the metal circle at about 50 m.p.h. An ideal form of relaxation for those who like to travel fast without going anywhere in particular!



Left: If you take a nip down to Brighton and can't hire a boat, you can still enjoy a spot of seaside fun if you've got an Amphib-Scooter like this one, which has retractable ski-type floats and a rotary paddle on the rear wheel.



Above: Perhaps the shape of things to come can be seen in this all-electric runabout, which does away with fumes, petrol and gears. On one charge it will travel up to 50 miles at around 25 m.p.h. It also presents few parking problems!

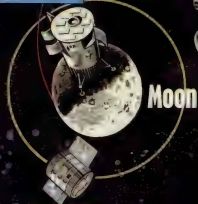
Left: Riding high to success is 8-year-old David Thorpe from Bracknell, Berkshire, who's been the British junior champion for the past two years. Under David's flying wheels are some of the 100 trophies he has won.

## UFO annual

The big book of Gerry Anderson's fabulous UFO story. Read about SHADO, the organisation that defends Earth against the Aliens from outer space. Also crosswords, games and test papers. In case your newsagent or bookseller is out of stock, send a crossed postal order, payable to Polystyle Publications Ltd., to the value of 65p, to Circulation Dept, Argus Press, 12-18 Paul St., London EC2A 4JS.



Lunar Landing Tug transports men and cargo to lunar surface; 1960's.



Lunar orbit space station; 1960's.

Space-base consists of modular compartments of varying sizes. Artificial gravity created by revolving whole base; 1960's.



Module for Spacebase in near-earth orbit; late 1970's.



Space Tug ferries cargo between Spacebase and other orbiting craft; late 1970's. Same as the Lunar Landing Tug, but with manipulating arms instead of landing gear.



Saturn launches Skylab into orbit.



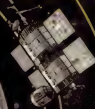
Saturn 1B delivers astronauts to Skylab.



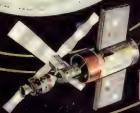
Space Shuttle provides cheap, re-usable space transportation; 1977.



Construction of Spacebase begins by docking two orbiting modules.



Skylab workshop for three astronauts ferried by Apollo Command Module; 1973.



A  
countdown  
EXCLUSIVE

THE HIGH SPEED LIFT IS STILL OPERATING AND SCARLET IS SOON AMID THE ELECTRONIC NERVE CENTRE OF EUROPE'S TELECOMMUNICATIONS NETWORK...



PHEW... WHAT A NIGHTMARE... NOW, WHICH CONTROL DECK IS FOR THE SATELLITES...

SUDDENLY...



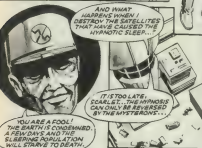
WHAT IN THE STATE IS... BLACK!

RETURN WITH ME TO THE MYSTERON CITY...



YOUR BATTLE IS LOST, EARTHMEN. YOUR ONLY HOPE IS TO JOIN THE MYSTERONS.

THE MYSTERONS WILL NEVER CONTROL THE BLACK. EARTH IS NOT FINISHED YET.



AND WHAT HAPPENS WHEN I DESTROY THE SATELLITES THAT HAVE CAUSED THE MYNATIC SLEEP...

IT IS TOO LATE, SCARLET... THE MYNOSIS CAN ONLY BE REVERSED BY THE MYSTERONS...

YOU ARE A FOOL! THE EARTH IS CONDEMNED. A FEW DAYS AND THE SLEEPING POPULATION WILL STARVE TO DEATH.



TELL YOUR MYSTERON MASTERS THAT IF I COME IT WILL BE BY BATH TRANSPORT.



REALISING THAT BATH IS DOOMED IF HE CAN'T FIND A SOLUTION SCARLET LEAVES THE P.O. TOWER...

THERE MUST BE A WAY TO MAKE THE MYSTERONS REVERSE THE MYNATIC WAVES... BUT NOW!

SCARLET'S DESPERATE SEARCH BEGINS AT THE BRITISH MUSEUM.



NOTHING HERE... MAYBE THERE WILL BE SOMETHING AT THE SCIENCE MUSEUM...



NOTHING... NOT A THING... THE MYSTERONS HAVE WON...



SO SPECTRUM HAS FAILED... THE MYSTERONS HAVE FINALLY WON! THE END OF... PERHAPS THAT'S IT, YES...

## Cross-shaped UFO's over England

EVERY so often there are great bursts of reported UFO activity from different parts of the globe. These peak periods are known among researchers as "waves" or "flaps".

In October 1961, England was the centre of a wave of sightings which were frequently of cross-shaped UFO's. One sighting was paid to a report made on October 2 by a 16-year-old girl, Susan, who lives in the village of Wimborley. This UFO had four "arms" lying flat on the ground, and it shined brightly like a spotlight, and it circled noisily over a railway station before rapidly disappearing.

Another sighting was made on October 10, when a Northampton lady saw that it had the shape of a golden cross, and it was very large. This too faded slowly away, and the story passed almost unnoticed, but when two Devonshire police officers told how they saw a cross-shaped UFO shined like a searchlight on the county of Devon, it was reported in the local press, and on the county radio, TV and national newspapers.

OCTOBER 24

Police constables Willey and Weycott were driving from Holworthy to Hetherleigh on the A3076 road when, just



The UFO sketched by Angus Frazer

after 4.10 a.m., they saw a bright light to the ESE of Anvil Corner.

The light was over trees at the right of the road, and maintaining a distance of about 400 yards ahead of their car. They went down the windows to ensure that they were not observing a reflection, reduced speed to report, and then stepped up their speed to over 70 mph.

The cross-shaped UFO maintained its position ahead of the car, and it was seen by both constables of the Northampton Cross it accelerated away over Black Torrington.

They stopped near a garage and got out of the car, but could not see the light. At the time of their initial observation at Anvil Corner, the sky was overcast and dark. The cross-headed object appeared to be about 3 cm. across when measured at arm's length.



Later, when on the A366 near Bessett's Cross, the officers thought they saw this light again in the East, but it was too far away to see clearly. One of the Bright star Sirius, for the clouds by then were broken.

# OCTOBER 15

The next day saw a rash of reports, including those of five policemen in Sussex who, in different localities, saw a "flying cross".

One officer stopped his motor cycle and lined up the object in the distance. He reported that the object was winging like a pterodactyl.

That evening, television viewers saw the Chief Constable tell his three officers that they had been watching Venus (leaving us to wonder which had been winging: the policeman or the Venus exploration suffered a setback when the Royal Observatory at Herstmonceux in Sussex announced: "There is something up there which is not a star or a planet".)

Mr. Brookes had observed a bright object on the eastward side of heavy cloud during the early hours of October 15, about the time when the police officers saw what they saw!



# OCTOBER 26

None of the scores of reports during these hectic days were interesting. On the 15th, the English Brigades, wired Admiral Sir John Jellicoe, Commander-in-Chief of the Royal Navy.

Mr. Brooks was walking with his German and Austrian dogs across Moyle Down near Lulworth Cove in Dorset on a cool, windy morning. There was a clear sky with little or no wind. A strong wind was blowing from the south, a station dip on the side of the hill.

Suddenly he saw what he thought was a "contour" over Portland, and then he watched in surprise as a remarkable object plummeted into view, landing out as swiftly as it came. It stopped to hover at about 300 feet, some 400 yards away from him.

The UFO consisted of a narrow leading "fuselage", a circular centre "body" and three trailing "fuselages". When it stopped to hover, the rear fuselages divided as if by a vertical line, and a remarkable cross shape was formed.

There was no noise, and no sign of a jet thrust. Despite the wind, the UFO hovered without moving for 20 minutes. In his witness says he was apprehensive, but stayed still.

Mr. Brooks had mistaken a vicious "foaler", or dead cat, for a mauler to "move on".

At 11.47 a.m., the fuselage moved to the third position and hovered for 10 minutes at right angles. The latter position was about midway between Weymouth and Portland and Portland Naval Base.

Mr. Brooks said the object seemed to be constructed of translucent material. He said he noticed that Mr. Brooks had mistaken a vicious "foaler", or dead cat, (husk related) in the eye.

However, opticians tell us that these "foalers" move towards and downwards, and Mr. Brooks says he saw the object move in a similar way. He said he saw the object remain in the centre of his vision for 20 minutes (during which time he blinked hundreds of times) before moving away to the other side.

By Charles Bowen Editor of Flying Saucer Review

AN HOUR LATER FINDS SCARLET'S S.P.V. SPEEDING INTO ANOTHER GOVERNMENT ESTABLISHMENT...



NEXT STOP AN ATOMIC WEAPONS STORE, ARIZONA.



FROM THE OVEN HEAT OF ARIZONA TO THE FROZEN WASTES OF SIBERIA.



SCARLET'S LONG MISSION NEARS COMPLETION ON THE VERY SATELLITE THAT BEGAN EARTH'S TROUBLES...



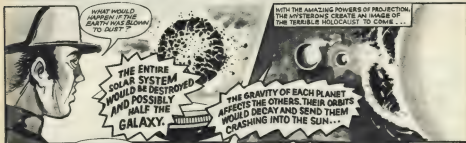
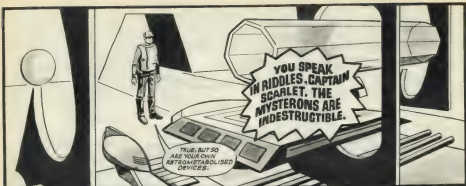
THE MYSTERY CITY OF MARS...



SO YOU SURRENDER AT LAST, EARTHMAN SCARLET.

NO, I COME TO WARN YOU OF YOUR OWN DESTRUCTION.





**WHAT'S** the next American space project after Apollo? The answer is Skylab, an orbiting workshop for three astronauts.

Skylab is due to be launched in 1973 into a circular orbit 230 miles above the Earth.

The massive 130,000-pound space station will consist of:

- The main Workshop, 50 feet long and 21.7 feet in diameter. This will be a converted S-IVB stage. An aluminum grid floor will divide the Workshop into crew quarters below and a laboratory above.

- An Airlock module, 17 feet long, mounted on the forward end of the Workshop. This contains the operating controls for Skylab and allows an astronaut to go outside the station without depressurizing the Workshop section.

- The Multiple Docking Adapter (MDA), 17 feet long and 10 feet in diameter, with two docking ports, a main port on the end for docking an Apollo Command Module, and a backup port on the side.

- The Apollo Telescope Mount (ATM), mounted at right angles to the rest of Skylab. This includes an astronomical telescope and four large solar panels. Two other solar panels on the Workshop complete the power supply.

Skylab will be launched by a two-stage Saturn 5. Using the giant booster will permit full outfitting of the Workshop (S-IVB stage) on the ground.

Earlier, the National Aeronautics and Space Administration (NASA) had planned to use the S-IVB as a live second stage of a Saturn

# 1973 Skylab

1B booster.

After the S-IVB had used up its liquid oxygen and liquid hydrogen to reach Earth orbit, the spent stage was to have been converted into laboratory and living space by the astronauts.

The Apollo Telescope Mount was to be launched by another Saturn 1B, with automatic rendezvous and docking with the Workshop.

NASA now plans to use the extra power of the larger Saturn 5 to launch the Workshop, Airlock, MDA and ATM together.

The Workshop will be outfitted on the ground and so will arrive in orbit com-

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GIANT 48 PAGE HOLIDAY SPECIAL

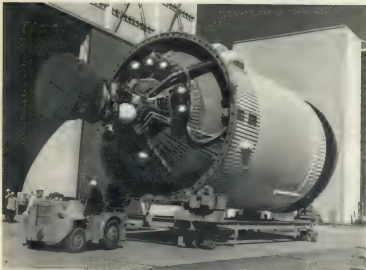
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pletely ready for occupancy by three astronauts, who will be launched a day later by a Saturn 1B.

Skylab will test man's ability to live and work in weightlessness for up to two months. He must pass this test if long duration flights to the planets are to be possible.

In future issues of Countdown, we'll examine the interior of Skylab and find out just how three men will work, eat and sleep in weightlessness.

The S-IVB stage (left) is normally the top stage of the three-stage Saturn 5 or the second stage of a Saturn 1B. It will be converted into the Skylab Workshop by removing the J-2 engine and installing inside a kitchen, lounge, sleeping compartments, ten water tanks and more than 250 compartments for storing food, clothing and equipment.

Photo courtesy  
McDonnell Douglas Corporation.



# The Force Field

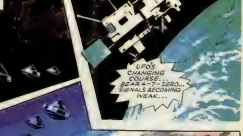
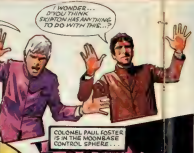
At SHADO Headquarters there is a department of scientists and technicians whose sole job is to develop new security aids and devices. Though brilliant men, they are treated with tolerance, for much of their research seems to be of no practical use to SHADO. One August morning in 1981, Ed Straker arrives at the studios...



THE SHADO CHIEF IS IN AN ABNORMALLY CHEERFUL MOOD...



ART: GERRY HAYLOCK



**IMAGINE** you're a stunt pilot flying over the Alps in a wingless plane. You come in high over the top of the jagged peaks and then drop steeply to land beside a deep canyon.

Hair-raising, you say? But it gives you some idea of the stiff hurdle set for the Apollo 15 astronauts, who are to make America's next moon landing this summer.

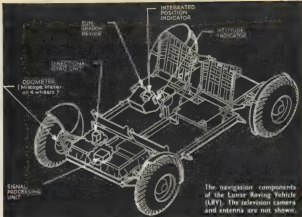
Their landing craft will zoom in over the moon's Apennine range where the towering mountains rise to over 10,000 feet. Down below, the target area will look pitifully small—a tiny plain near Hadley Rille. (You can find it on a moon map between the Sea of Rains and the Sea of Serenity.)

Once they are safely on the moon, the Apollo 15 landing crew will embark on the longest and most exciting moon trek so far.

But not on foot. This time they'll ride around in a lunar rover—a jeep-type buggy specially designed to take some of the sweet and toil out of exploring the moon.

The lunar rover, 10 feet long and six feet wide, has a top speed of about 10 m.p.h. and can negotiate slopes as steep as 25°.

It is battery driven, and able to operate for 76 hours. It is reckoned to have a range of 40 miles, but the astronauts are unlikely to travel more than three miles in any one direction from their space-



# Roving the Moon

craft—the distances they could cover on foot if their rover vehicle broke down.

In contrast to earthbound cars which normally carry about half their own weight, the lunar rover has been designed to carry more than twice its own weight (400 lb.) on the moon. In addition to the two space-suited astronauts and their gear

there will be room for about 200 lb. of scientific instruments and 70 lb. of moon rock. The total weight carried will be 1,000 lb.

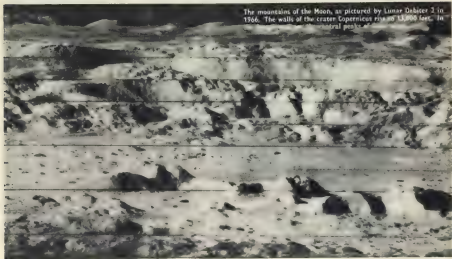
To cope with the contrasting surface of the moon, which in the landing area may range from hard, jagged rocks to soft, dusty soil, the wheels of the lunar rover are made from piano wire

woven into a flexible mesh. Each wheel has its own electric motor and is 31 inches in diameter.

The LRV will give the astronauts three lunar trips, for a total of 26 hours outside the lunar module.

These trips should make pretty exciting viewing for all us armchair astronauts back on Earth. A television camera will be mounted on the front of the lunar rover. So we should get some stunning pictures of some of the moon's mountains as the astronauts drive towards them.

How about a ride around the moon, just like the astronauts? Next week we'll put you in the driving seat of the lunar rover.



The mountains of the Moon, as pictured by Lunar Orbiter 2 in 1966. The walls of the crater Copernicus rise to 13,000 feet. In the foreground, the central peak of the crater is visible.



## WINNERS OF OUR TELESCOPE COMPETITION

Here are the names of the winners of the telescope competition (Issue 8): First prize: Robin Davies, Harvey Road, Croydon Green, Herts. The eight runners-up: P. St. John Jacobs, Shoreline Hotel, Sharncliffe, Isle of Wight;

J. P. Heard, Derby Road, Long Eaton, N. Nottingham; A. P. Pearce, Robson Lane, Pyrlford, Woking, Surrey; Edward Martin, Junction Close, Glenfield, Leicester; Ian David Munn, Icknield Street, Hockley, Birmingham, 18, S.A.U.; Robert Yeates, Rodney Close, Taverstall, Dartmouth, Devon; Raymond Massey, Cambrian Road, Tunbridge Wells, Kent; D. Morgan, Mansel Road, Darneston, Swansea, Glam.



## Light knife

Surgery by laser is the promise of this prototype "light knife" (left) being developed by the U.K. Atomic Energy Authority.

The heart of the device is a carbon dioxide laser which emits an invisible beam of heat radiation.

It is supported by a system of counterbalances so that the surgeon need only apply gentle guiding pressure.

## Solar wind

Q What is the solar wind?  
P. J. Gissling  
Rugby, Warwick.

A The "solar wind" consists of streams of low-energy atomic particles (protons, electrons, and atomic nuclei) sent out continuously in all directions from the Sun.

When these particles strike the Moon they are absorbed by rocks on the surface. The longer a Moon rock has been lying on the surface, exposed to the solar wind, the greater the quantity of solar wind material it contains.

One of the experiments performed by the Apollo astronauts is to "capture" solar wind particles by exposing a large sheet of metal foil to the Sun, then returning it to Earth for scientists to examine.

Pressure from the wind, although slight, is strong enough to push the dust and gas in a comet's tail outward, so that it points away from the Sun.



## Complex Apollo 14 Moon rocks

Some of the lunar rocks collected by the Apollo 14 astronauts may date back to the original 4,800-million-year-old crust of the Moon.

Scientists who made a preliminary study of the rocks, before samples were released from quarantine in April and distributed to investigators in 18 countries, said that the samples are more complex than those collected by the Apollo 11 and 12 astronauts.

They contain 23 different minerals—as many as the Apollo 11 and 12 samples combined—and have numerous and often superimposed geologic histories. Some represent different phases in the Moon's history.

The samples contain surprisingly low amounts of solar wind material, which seems to indicate that the Fra Mauro rocks had a different history from earlier Apollo samples.

## Launching through the window

Q What is the launch window?  
Peter McIlraith  
Birmingham

A It is not a real window, but a certain length of time—the period of time during which a rocket can be launched and still reach its target.

One says that the launch window "opens" at a certain hour and "closes" several hours later. For example there is a period of not more than five hours within which the Saturn 5 can be launched so that Apollo is put on the correct path to the Moon.

Because the Earth is rotating and the Moon is revolving about the Earth, there are only one or two days each month, and a few hours out of those days, when both bodies are in the right position relative to each other for a Moon flight to occur.

If you miss the launch window, you must wait until next month when the window opens again.

## Catching a train for a plane!

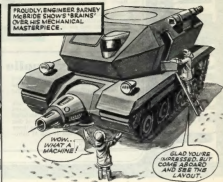
Strange as it may seem, if you want to board a plane in Tampa, Florida, you must first catch a train.

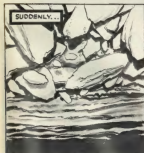
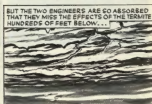
This electric shuttle (above) carries passengers between the terminal building and their waiting plane in only 40 seconds.

# THUNDERBIRDS



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BUT MAJOR BITTER'S INSTRUCTIONS  
ONLY CAUSE FURTHER CHAOS...

MEANWHILE, BILL AND  
GEORGE BARNES FOLLOW  
GRANT'S PROGRESS ALONG  
THE TUNNEL...

HOW ARE WE  
GOING TO GET HIM  
OUTTA THERE WITHOUT  
A SPACE SUIT?

I THINK WE'LL  
HAVE TO CALL ON CLOSER  
CO-OPERATION FROM OUR  
OWN ZEPHYR CREW.

INSIDE THE BUILDING  
GRANT SEARCHES  
DESPERATELY FOR  
SOME ESCAPE ROUTE...

AND SECONDS  
LATER...

I HAVE TO  
FIND A  
SPACESUIT...

HOLD  
IT RIGHT  
THERE!

THAT'S  
AS FAR AS  
YOU GO.

NOT SO, SUB  
CONTROLLER.  
HE'S MINE.

AS THE SURPRISED SUB-CONTROLLER TURNS TO ARGUE...

OOF!

UHH!

THIS WAY  
AND HURRY!

SOMETIME  
AFTER, ON  
COUNTDOWN...

WHY DOES  
BILL WANT TO  
STAY IN  
GEORGE'S  
WORKSHOP?

HE SAID HE  
HAD DISCOVERED  
THINGS THAT WERE  
SINGULARLY  
INTERESTING AND  
HE'D TELL US  
LATER.

A REMARKABLE  
FELLA... SURE  
DID GRANT AND  
ME A FAVOUR.

YOU DID PRETTY  
WELL YOURSELF,  
GEORGE.

MINUTES  
LATER...

I STILL  
CAN'T BELIEVE  
IT, BUT I SURE  
AM GRATEFUL,  
BILL.

WE STILL  
HAVE TO GET  
BACK TO COUNTDOWN.  
GRANT, I THINK BITTER  
GOT MORE THAN ENOUGH  
ON HIS PLATE AT THE  
MOMENT.

WHILE ON EARTH,  
CONTROLLER  
COSTRA IS TOLD...

THE BUNGLING FOOLS!  
THE WHOLE FUTURE OF THE  
COMPANY COULD BE AT STAKE  
DUE TO THIS INCOMPETENCE!

countdown at 1

countdown RESUMES NEXT WEEK!